

PCT/IPEA/SE
Patent- och registreringsverket
Box 5055
S-102 42 STOCKHOLM

FAX No. 00 46 8 667 72 88

08 October 2001

Your ref.:

Our ref.: E14443 JFL/GJE

Re.: International Patent Application PCT/NO00/00235 of 10.07.00
Applicant: Metronor ASA et al

Dear Sirs,

This is in response to the PCT Written Opinion of 24 August 2001, the due date for a response accordingly being 8 October 2001.

We enclose a revised set of claims to be considered, new claim 1 being a combination of previous claims 1 and 3. Previous claims 4-13 have become new claims 3-12 with dependencies renumbered accordingly. Further, previous claim 11, new claim 10, has been redrafted in a more "method-like" fashion. The same applies for previous claim 13, now claim 12.

The applicant is of the opinion that it would not be obvious to combine references D6 and D1 in order to arrive at the present invention. Although there are several features which are similar, the combination of the features of claim 1 would appear to be patentably distinct over the prior art. Claim 1 includes in combination a network of reference points; an absolute, portable measurement system based on said network, a contact-free scanner, and a robot for moving the combined measuring and optical scanning system. The features may be known separately, but the combination is novel and provides quite new possibilities within industry.

A plurality of inventors have over the years presented methods in order to link together measurement data from scanners having small work volumes. Typically, these methods are in two categories: they are either based on more or less advanced methods for edges-analyses and connecting together of sets of surface pieces, whereas other methods are based on measurement of relative position of the scanner between different set-ups, so that all measurement data can be put together in a point cloud which can be adapted to the object, e.g. through a least squares method. As mentioned in the present application, such an approach provides quite variable and inaccurate results. Reference D1 is a good example thereof, using gyro or accelerometer systems in order to measure the movement of the sensor.

The novelty of the present invention is the inventive combination of an electro-optical absolute position measurement system and an optical scanner. Thereby, each set of measurement data, even each measurement point, will be known directly in the coordinate system of the object.

It appears to be quite unjustified to state that absolute measurement systems and scanners are already known and that a combination of these would also be obvious, and this seems unjustified not least in the light of the vast amount of research which has been carried out in order to solve this problem, see e.g. references D1-D5.

Reconsideration of the patentability of the claims as presented is respectfully requested.

In view of the date for the final Written Opinion being 13 November 2001 it is requested that a further Written Opinion is issued with a shortened term of 14-21 days in case there are still objections as regards inventive step.

Yours faithfully
BRYNS ZACCO AS


Jens F. C. Langfeldt

Enclosure(s):
Amended patent claims